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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/045,663	01/16/2002	Se-Ja-Chul Hwang	47716/DBP/Y35	2200
23363	7590	02/25/2004	EXAMINER	
CHRISTIE, PARKER & HALE, LLP 350 WEST COLORADO BOULEVARD SUITE 500 PASADENA, CA 91105			GUHARAY, KARABI	
			ART UNIT	PAPER NUMBER
			2879	

DATE MAILED: 02/25/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary**Application No.**

10/045,663

Applicant(s)

HWANG ET AL.

Examiner

Karabi Guharay

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on 11/25/03
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 7,8 and 10 is/are allowed.
- 6) ☒ Claim(s) 1-6,9 and 11-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 January 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

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Amendment of specification and amendment of claims have been considered and entered.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-3, 5-6, 9, 11-21 are rejected under 35 U.S.C. 102(e) as being anticipated by Taguchi et al. (US 6617777).

Regarding claim 1, Taguchi et al. disclose an electron gun (see Fig 4) for a cathode ray tube comprising a cathode (7) for emitting an electron beam, a plurality of grid electrodes G1, G2, G3, G4, & G5 aligned sequentially from the cathode (lines 36-42 of column 3), one of the grid electrode G4 (10) have a plurality of tubular focusing electrode sections (13, 14) that are mounted with at least one predetermined gap therebetween, a support (support rod 18 of Fig 1) for fixing the grid electrodes in their aligned arrangement, and a shield electrode (coil member 12) mounted covering the at least one gap of the focusing electrodes (13, 14) and extending a predetermined distance over the focusing electrodes (13, 14, lines 52-55 of column 3, lines 52-56 of column 4).

Regarding claim 2, Taguchi et al. disclose that a plurality of openings are formed at predetermined distances through the shield electrode (lines 32-33 of column 5), and the shield electrode 12 is cylindrical and is mounted on the focusing electrodes (13, 14) covering the gap (see Fig 1).

Regarding claim 3, Taguchi et al. disclose that the shield electrode 12 is a single unit (see Fig 1).

Regarding claim 5, Taguchi et al. disclose that the at least one gap g_1 of the focusing electrodes satisfies the following condition $4\text{mm} < g_1 < 12\text{mm}$ (lines 30-32 of column 5).

Regarding claim 6, Taguchi et al. disclose that the length of the first separated focusing electrode 13 has an axial length (b), which is greater than the inner radius ($0.5a$ mm), clearly shown in Fig 1.

Regarding claim 9, Taguchi et al. disclose that the distances g_2 between the openings satisfy the condition $0.3\text{ mm} < g_2 < 0.75\text{ mm}$ (in this case separation distance between openings are the diameter of the metal wire, which is 0.6mm, see line 30 of column 5).

Regarding claim 11, Taguchi et al. disclose that the shield electrode 12 is made of a non-magnetic material such as stainless steel (see line 30 of column 5).

Regarding claim 12, Taguchi et al. disclose that the openings are circular (see Fig 1).

Regarding claim 13, Taguchi et al. disclose that the openings are multilateral (since openings are cylindrical space between windings).

Regarding claim 14, Taguchi et al. disclose that the shield electrode 12 directly contacts the focusing electrode (13, 14 see Fig 1).

Regarding claims 15 & 16, Taguchi et al. disclose that the shield electrode 12 is provided at a predetermined distance from focusing electrodes by being fixedly mounted to the support (16, 17) through protrusions (tip part 15) formed integrally to the shield electrode (lines 10-19 of column 4).

Regarding claim 17, Taguchi et al. disclose that cathode emits a single electron beam (line 27-29 of column 5).

Regarding claim 18, Taguchi et al. disclose a cathode ray tube (Fig 3) comprising an electron gun 4, including a cathode (7) for emitting an electron beam, a plurality of grid electrodes G1, G2, G3, G4, & G5 aligned sequentially from the cathode (lines 36-42 of column 3), one of the grid electrode G4 (10) have a plurality of tubular focusing electrode sections (13, 14) that are mounted with at least one predetermined gap therebetween, a support (support rod 18 of Fig 1) for fixing the grid electrodes in their aligned arrangement, and a shield electrode (coil member 12) mounted covering the at least one gap of the focusing electrodes (13, 14) and extending a predetermined distance over the focusing electrodes (13, 14, lines 52-55 of column 3, lines 52-56 of column 4), a neck 3 within which the electron gun is mounted, and a scanning velocity modulation coil (shown in Fig 6) mounted on an outer circumference of the neck corresponding to the positioning of the at least one gap of the focusing electrodes (lines 20-23 of column 5).

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Claim 19 recites essentially the same limitations of claim 2. Thus claim 19 is rejected as claim 2 (see rejection of claim 2).

Regarding claim 20, Taguchi et al. disclose that the CRT is a projection-type cathode ray tube, in which a single electron beam is emitted from the cathode (line 26-28 of column 5).

Regarding claim 21, Taguchi et al. disclose an electron gun (see Fig 4) for a cathode ray tube comprising a cathode (7) for emitting an electron beam, a plurality of grid electrodes G1, G2, G3, G4, & G5 aligned sequentially from the cathode (lines 36-42 of column 3), one of the grid electrode G4 (10) have a plurality of tubular focusing electrode sections (13, 14) that are mounted with at least one predetermined gap therebetween, a support (support rod 18 of Fig 1) for fixing the grid electrodes in their aligned arrangement, and a shield electrode (coil member 12) mounted covering the at least one gap of the focusing electrodes (13, 14) and extending a predetermined distance over the focusing electrodes (13, 14, lines 52-55 of column 3, lines 52-56 of column 4) for shielding an external electrical field from entering into the at least one gap (since the coil 12 produces an equipotential space throughout the gap between the electrodes and also gap between wires of the coils are narrow enough for shielding external electric field, lines 57-58 of column 3, and 41-43 of column 5).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

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invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Taguchi et al., as applied to claim 1.

Regarding claim 4, Taguchi et al. meet all the limitations of claim 4, except for shield electrode formed by a plurality of separate elements. Taguchi et al. teach a shield electrode 12, which is a coil, formed of a single metal wire. However, It is noted that applicant's specific formation of shield electrode by a plurality of separate elements does not solve any of the stated problems or yield any unexpected result that is not within the scope of the teachings applied. Therefore it is considered to be a matter of choice, which a person of ordinary skill in the art would have found obvious to use plurality of separate elements to make the shield electrode.

Allowable Subject Matter

Claims 7-8, and 10 are allowed over the prior art of record. The reasons for allowance are given in previous office action.

Response to Arguments

Applicant's arguments filed 11/25/03 have been fully considered but they are not persuasive.

Regarding applicant's argument that Taguchi does not teach or suggest "a shield electrode mounted covering a predetermined distance over the focusing electrodes",

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examiner respectfully disagrees. Taguchi's coil member (12) indeed covers the gap between electrodes 13 and 14, and extends a distance over the electrode 13 and 14 from the opening of the gap to the position of the support member 16 and 17 of the respective electrodes 13 and 14. Furthermore, since coil 12 is electrically connected with the electrodes 13 and 14, it creates an equipotential space throughout the grid 4 (10), thus coil 12 covering the gap between electrode 13 and 14 acts as a shield for external electric field into the gap (see lines 41-43 of column 5).

Furthermore applicant, in page 14 of specification admits that in case the electrode (20C) is electrically connected to the separated focusing grids G41-G42, external electric field cannot influence the beam inside the focusing grids, thus electrode 20C acts as a shield for external electric field. Thus it is clear Taguchi's coil member is a shield electrode.

Regarding applicant's argument that the coil member of Taguchi is not the same as the shield electrode of the present invention, applicant agrees that they are not same but structure of the shield has not been claimed. Thus, argument is redundant.

Regarding applicant's argument that coil member of Taguchi does not extend "a predetermined distance over the focusing electrodes", examiner respectfully points out that coil member (12) covers the space between electrodes 13 and 14 and also extends over the electrodes 13 and 14 up to a distance from the gap to the position of respective support members 16 and 17. It should be noted that the support member 16 is not positioned at the end of electrode 13, facing electrode 14, similarly the support 17 is not positioned at the end of electrode 14 facing the electrode 13 (see Fig 1), thus coil

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member not only covers the gap between electrode 13 and 14 and also extends both sides from the gap which is clear from the position of the coil tip (15 of Fig 1).

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.


Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Karabi Guharay whose telephone number is (703) 305-1971. The examiner can normally be reached on Monday-Friday 8:30 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimeshkumar D. Patel can be reached on (703) 305-4794. The fax phone number for the organization is (703) 308-7382.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.


Karabi Guharay
Patent Examiner
Art Unit 2879


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